

THE REJECTION

Claims 1-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Soucy (6,476,510) and Lacy (6,510,369).

ARGUMENT

The applicant hereby presents the argument that the Examiner has inappropriately combined prior art references in an effort to render the claimed invention obvious. Therefore, the rejections should be withdrawn.

Criteria for Establishing a *Prima Facie* Case of Obviousness

A review of the grounds of rejections indicates that the basis of the Examiner's rejections relies on the appropriateness of combining the teachings from several pieces of prior art to render the present invention obvious under 35 U.S.C. 103(a). Therefore, it is advantageous to first review the criteria for establishing a *prima facie* case of obviousness before setting forth the applicant's argument.

Section 2143 of the Manual of Patent Examining Procedure states that three basic criteria must be met for establishing a *prima facie* case of obviousness:

"First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or reference when combined) must teach all of the claim limitations."

"If the examiner does not establish a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness." Section 2142 MPEP, ch. 2100, p. 110.

"When the references cited by the examiner fail to establish a *prima facie* case of obviousness, the rejection is improper and will be overturned." *In re Ochiai*, 71 F.3d 1565, 37 U.S.P.Q.2d 1127 (Fed. Cir. 1995).

The courts have clarified the guidelines through rulings including the following.

Karsten Mfg. Corp. v. Cleveland Golf Co., 242 F.3d 1376, 1385 (Fed. Cir. 2001) ("In holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention.")

In re Dance, 160 F. 3d 1339, 1343 (Fed. Cir. 1998) ("When the references are in the same field as that of the applicant's invention, knowledge thereof is presumed. However, the test of whether it would have been obvious to select specific teachings and combine them as did the applicant must still be met by identification of some suggestion, teaching, or motivation in the prior art, arising from what the prior art would have taught a person of ordinary skill in the field of the invention.")

In re Fine, 837 F.2d 1071, 1075 (Fed. Cir. 1988) (there must be "some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references")

Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1143 (Fed. Cir. 1985) ("When prior art references require selective combination by the court to render obvious

a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself.”)

Argument Presented Regarding the Rejection of Claims 1-20 (35 U.S.C. 103(a))

Re: motivation or suggestion to persons in the art to combine the references

It is the applicant's position that there is no motivation or suggestion to persons with ordinary skills in the art to combine the teachings by Soucy and Lacy to arrive at the teaching of the present invention.

Soucy teaches that “a further-driven system for electric power generation is controlled according to increased values a load power demand and a turbine output shaft speed” (the last sentence of the Abstract), which can be used in an aircraft.

Lacy teaches an entirely unanalogous art, which is residential load controlling (shedding and re-connecting). Its specification and independent claim 1 clearly limit the scope of the application to “a fuel cell system adapted to provide power capable of being consumed by residential loads...” (claim 1).

Neither Soucy nor Lacy contains the suggestions or motivation to combine the two references. A person skilled in aircraft electric load controlling should not be reasonably expected to be well versed in residential fuel cell powered systems.

In summary, there is no reasonable motivation or suggestion for a person skilled in the relevant art (aircraft electrical loads) to combine the two cited references.

Re: the requirement that the combined references teach all the limitations of the present invention.

The Examiner asserts that Soucy "teaches plurality of secondary loads (direct – generator, indirect – load, Fig. 1), at least one flight condition sensor (engine speed sensor), and a controller (fuel supply controller & governor) coupled to the plurality of loads and the sensor" and concedes that "Soucy doesn't explicitly teach how the controller will control the system to work efficiently."

While the applicant agrees on Soucy's lack of teaching the manner of controlling, it is the applicant's position that Soucy does not teach the controller that is meaningful and functionally comparable to the present invention.

Claim 1 of the present invention reads as follows,

**"A secondary electrical load power management system for an aircraft comprising:
a plurality of secondary electrical loads;**

at least one aircraft flight condition sensor; and

a controller coupled to said plurality of secondary electrical loads and to said at least one aircraft flight condition sensor and determining engine secondary power extraction and current operating conditions of said aircraft, determining a engine secondary power extraction limit in response to said current operating conditions, and operating said plurality of secondary electrical loads in response to said engine secondary power extraction limit and said engine secondary power extraction." (emphasis ours).

The Examiner erred in reciting that Soucy teaches "a controller (fuel supply controller and governor) coupled to the plurality of loads and the sensor" (lines 4-5, section 4 of the office action) to allege the teaching of "a controller coupled to said plurality of secondary electrical loads and to said at least one aircraft flight condition sensor...and operating said plurality of secondary electrical loads..." (claim 1) of the present invention. In Soucy, the governor is coupled to the fuel supply controller, which in turn is coupled to the engine. The engine, wherein the fuel is consumed to power the aircraft, should not be considered as a load, which is defined by the Merriam-Webster Online Dictionary as "a device to which power is delivered." Therefore the controller in Soucy is not coupled to and does not operate the plurality of loads as taught by the present invention (generator and/or other loads).

Re: Paragraph [0021] of the specification

The Examiner has notified the undersigned on the telephone that paragraph [0021] of the specification does not conform with the drawings, namely, Figure 1.

It is the applicant's position that the paragraph [0021] is in complete agreement with the teaching of Figure 1.

Paragraph [0021] of the specification as filed reads,

"The secondary electrical loads 18 include direct power secondary loads 38 and indirect power secondary loads 40. The direct loads 38 receive electrical power directly from the engines 16, whereas the indirect loads 40 receive power from the engines 16 via one of the direct loads 38, such as generators 42."

When Figure 1 is read in conjunction with paragraph [0021], it is evident that five parts are shown as examples of secondary electrical loads, i.e., Fuel Pump, Hydraulic Pumps, Hydraulic Loads, Electric Generators, and Indirect Power Secondary Electric loads. All these parts are labeled with the numeral 18, indicating they are secondary electrical loads. Further, Fuel Pump, Hydraulic Pump, Electric Generators are also labeled with the numeral 38, indicating they are *direct* power secondary loads. Paragraph [0021] teaches that direct power secondary loads receive electrical power directly from the engine 16, and correspondingly a line is shown in Figure 1 directly connecting the engine to each of the three parts (the fuel pump, the hydraulic pumps and the electric generators). The Indirect Power Secondary Electric Loads, as a indirect load, is labeled with the numeral 40, and is connected to the Electric Generators, rather than directly to the engine. Hydraulic loads, another example of the Indirect Power Secondary Electric Loads, should have been also labeled with the numeral 40, but it is correctly shown in Figure 1 that it is connected to Hydraulic Pumps, rather than directly to the engine.

Therefore, no conflict between the teaching of paragraph [0021] and the teaching of Figure 1 is identified by the applicant. The applicant is submitting herein an amended Figure 1, solely to add the numeral 40 to the part Hydraulic Loads.

SUMMARY

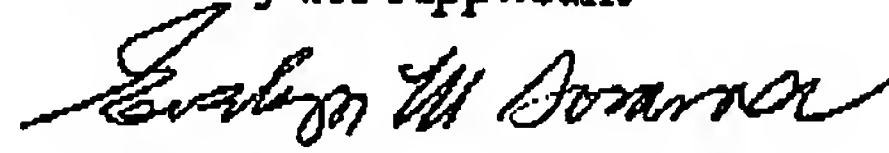
In summary, it is the applicant's position that the cited references, when combined, do not teach all the limitations of the present invention.

Therefore, the rejection of claims 1-20 under 35 U.S.C. 103(a) over the cited prior art should be withdrawn.

It is submitted that there is no *prima facie* evidence for obviousness and the allowance of the claims in the present invention is respectfully requested.

Respectfully Submitted

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